

NWS FORM E-5

U.S. DEPARTMENT OF COMMERCE  
NOAA, NATIONAL WEATHER SERVICE

HSA OFFICE:  
**Grand Rapids, MI**

REPORT FOR (MONTH & YEAR):  
March 2004

**MONTHLY REPORT OF RIVER AND FLOOD CONDITIONS**

TO: NATIONAL WEATHER SERVICE (W/OS31)  
HYDROMETEOROLOGICAL INFO CENTER  
1325 EAST-WEST HIGHWAY, RM 13468  
SILVER SPRING, MD 20910

DATE:  
May 11, 2004

SIGNATURE:  
Daniel G. Houser, MIC  
Mark L. Walton, Service Hydrologist

When no flooding occurs, include miscellaneous river conditions, such as significant rises, record low stages, ice conditions, snow cover, droughts, and hydrologic products issued (WSOM E-41).



An **X** inside this box indicates that no flooding occurred within this Hydrologic Service Area.

Minor flooding occurred in the Grand Rapids Hydrologic Service Area (HSA) during the month of March. River Flood Warnings were issued for the Maple River near Maple Rapids, Grand River near Comstock Park and Robinson Township, Rogue River near Rockford, Chippewa River near Mt. Pleasant, Pine River near Alma, Pere Marquette River near Scottville, and the White River near Whitehall, Michigan. No significant property damage was reported and no lives were lost during the minor flooding that occurred in March.

**March Flooding**

On March 1<sup>st</sup>, an Urban and Small Stream Flood Advisory was issued for seven counties in Southwest and Central Michigan for nuisance flooding of low lying areas and gravel roads. The flooding was the result of significant runoff generated by temperatures into the 50s accompanied by up to an inch of rain melting a ripe snowpack. This nuisance flooding ended March 2<sup>nd</sup>, with no reports of significant property damage. On March 2<sup>nd</sup> and 3<sup>rd</sup>, Hazardous Weather Outlooks and Hydrologic Outlooks were issued highlighting the potential for more flooding later in the week. A Flood Watch was issued March 4<sup>th</sup>, for ten counties in Southwest and Central Michigan effective through late afternoon on March 5<sup>th</sup>. Heavy rainfall of one to two inches moved into Southwest Lower Michigan over very moist soils late in the evening on March 4<sup>th</sup>, and into early morning hours of March 5<sup>th</sup>. The first Flood Warning was issued at 5:02 AM on March 5<sup>th</sup>, for the Maple River at Maple Rapids, Michigan. An Urban and Small Stream Flood Advisory was issued at 8:00 AM on March 5<sup>th</sup>, for eight counties in West Central Michigan. Numerous reports of flooded secondary roads were reported across the advisory area. County officials in the advisory area reported that closed roads were so numerous that safety barrels and barricades were in short supply. At 6:40 PM on March 5<sup>th</sup>, a Flood Warning was issued for the Grand River at Comstock Park, Michigan. This was followed by Flood Warnings at 10:08 PM on March 5<sup>th</sup>, for the Chippewa River near Mt. Pleasant, Michigan, and Pine River near Alma, Michigan. Hydrologic Statements were issued on March 5<sup>th</sup> for 22 river locations forecast to have significant within bank rises across South West Lower Michigan. On the morning of March 6<sup>th</sup>, Flood Warnings were issued for the

Rogue River at Rockford, Michigan, the Pere Marquette River near Scottville, Michigan, the Whiter River near Whitehall, Michigan, and the Grand River at Robinson Township. All Flood Warnings were followed up with Flood Statements until the rivers fell below flood stage. Hydrologic Statements were issued for all river locations that remained below flood stage but had high flows until they fell several feet below bankfull stage. The cancellation of the final Urban and Small Stream Flood Advisory occurred on March 7<sup>th</sup>, and the cancellation of the final Flood Warning with a Flood Statement occurred on March 11<sup>th</sup>. See attached NWS Form E-3 Flood Stage Report for details of river flooding. No lives were lost with this event. The rest of March was fairly quiet.

### **March Precipitation**

March was a fairly wet month. March precipitation totals at first order and contract stations across our HSA were above normal. Monthly precipitation totals at Grand Rapids, Lansing, and Muskegon, Michigan, were 4.79, 3.35, and 4.75 inches, respectively. Precipitation for the month at these three sites were 2.20 inches above normal at Grand Rapids, 1.02 inches above normal at Lansing, and 2.39 inches above normal at Muskegon, Michigan. For Grand Rapids, it was the 7<sup>th</sup> wettest March on record, and for Muskegon, the 5<sup>th</sup> wettest March on record. For the year, precipitation totals at Grand Rapids were 1.71 inches above normal, at Lansing 0.58 of an inch below normal, and at Muskegon 0.51 of an inch above normal.

Snowfall for the month of March was 3.9 inches at Grand Rapids (5.1 inches below normal), 2.9 inches at Lansing (5.8 inches below normal), and at Muskegon, 2.4 inches (8.7 inches below normal). By the end of the month the snowpack across our HSA was gone.

### **March Temperatures**

Temperatures for the month of March were well above normal at Grand Rapids, Lansing, and Muskegon, averaging 4.7, 4.9, and 5.0 degrees above normal, respectively. With the above normal temperatures for the month, frost depths were below normal, and by the end of March soil temperatures across the HSA were above freezing.

### **Hydrologic Outlooks**

The spring snowmelt flood potential outlook in March indicated only the possibility of minor snowmelt flooding for our HSA. Several outlooks were issued this month to give advance notice of the flooding that occurred during March.

### **March River Levels**

Very little ice was left on rivers within our HSA by the middle of the month due to the above normal temperatures. River levels were high at the beginning of the month due to above normal precipitation early in the month. As a result, many rivers rose out of their banks and some minor flooding occurred. By the end of the month rivers across our HSA were running near to above normal flows. The end of the month percentage of normal flow for selected rivers is listed below:

<u>Location</u>	<u>River</u>	<u>% of Normal</u>
Scottville	Pere Marquette	125
Whitehall	White	95
Evart	Muskegon	162
Mt. Pleasant	Chippewa	94
Lansing	Grand	72
Grand Rapids	Grand	77
East Lansing	Red Cedar	79
Hastings	Thornapple	89
Battle Creek	Battle Creek	108
Comstock	Kalamazoo	84

**Hydrologic Products issued this month:**

6 Hydrologic Outlooks (ARBESFGRR) were issued.  
4 Flood Watches (ARBFFAGRR) were issued.  
9 Flood Warnings (ARBFLWGRR) were issued.  
46 Flood Statements (ARBFLSGRR) were issued  
49 Hydrologic Statements (ARBRVSGRR) were issued.  
31 Hydrologic Summarys (ARBRVAGRR) were issued.

cc:

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